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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/865,485	05/29/2001	Charles C. Peck	YOR920000698US1	3502

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McGuire Woods, LLP
1750 Tysons Boulevard
Suite 1800
McLean, VA 22102

EXAMINER

BASOM, BLAINE T

ART UNIT	PAPER NUMBER
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2173

DATE MAILED: 01/02/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/865,485

Applicant(s)

PECK ET AL.

Examiner

Blaine Basom

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 11, 12, 14, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,850,211, which is attributed to Tognazzini. In general, Tognazzini presents a method for scrolling a page of information displayed by a computer. Tognazzini particularly discloses that the rate and direction that information is scrolled is based on the position of the user's gaze (for example, see the abstract). A computer implementing this method of Tognazzini is consequently considered a system, like that of claim 1, which is for using eye gaze to control a scroll rate of information presented on a display.

Specifically regarding claim 1, Tognazzini discloses that such a system comprises: a display for displaying scrolling information; an "eyetracker," which provides a means for monitoring a gaze position on the display relative to a "reference position," and a "controller," which provides a control means for adjusting the speed of the scrolling information if the gaze position deviates from the reference position (see column 2, lines 15-41). This reference position described by Tognazzini is considered an "anchor position," like that recited in claim 1.

In reference to claims 2, 3, 11, 12, 14, and 15, Tognazzini discloses that, as a user reads a text object, the information presented by the computer display may be scrolled downwards, from the bottom of the display to the top of the display, wherein the control means increases the scroll

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rate if the gaze position moves below the reference position and decreases the scroll rate if the gaze position moves above the reference position (see column 5, lines 12-56). Referring specifically to claim 3, Tognazzini discloses that a display may comprise a “scroll up area,” which is presented at the top of the display and which is interpreted to result in the displayed information scrolling upwards when selected by the user’s gaze (see figure 5, in addition to column 6, lines 44-58). It is therefore understood that the controller reverses the scroll direction if the gaze position moves near the top of the display. Consequently, and specifically regarding claims 11, 12, 14, and 15, Tognazzini is considered to teach a method and computer readable medium implementing for the steps of: defining an initial anchor position near a center line of a display; scrolling information across the display at a scroll rate with new information appearing at a first side of the display and disappearing at a second side of the display; tracking a gaze position on the display; increasing the scroll rate if the gaze position moves from the anchor position toward the first side of the display; decreasing the scroll rate if the gaze position moves from the anchor position toward the second side of the display; and reversing the scroll direction if the gaze moves near the second side of the display.

As per claims 4 and 5, Tognazzini discloses that a display may comprise a “scroll up area,” which is presented at the top of the display and which is interpreted to result in the displayed information scrolling upwards when selected by the user’s gaze (see figure 5, in addition to column 6, lines 44-58). It is therefore understood that when the user selects this scroll up area, the displayed information scrolls upwards, from the top of the display to the bottom of the display. Additionally, and specifically regarding claim 5, Tognazzini discloses that the display may comprise a “scroll down area,” which is presented at the bottom of the

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display and which is interpreted to result in the displayed information scrolling downwards when selected by the user's gaze (see figure 5, in addition to column 6, lines 44-58). It is therefore understood that the controller reverses the scroll direction if the gaze position moves near the bottom of the display.

With respect to claim 6, Tognazzini discloses that the above-described reference position, i.e. anchor position, is a horizontal line at the center of the display (see figure 3, in addition to column 5, lines 16-20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the U.S. Patent of Tognazzini, which is described above, and also over U.S. Patent No. 6,351,273, which is attributed to Lemelson et al. (and hereafter referred to as "Lemelson"). As shown above, Tognazzini presents a system, like that of claim 1, which is for using eye gaze to control the rate of information presented on a display. Tognazzini specifically discloses that this system comprises a controller for adjusting the speed that the information scrolls if the user's gaze position deviates from a reference position. Tognazzini, however, does not explicitly disclose that the displayed information scrolls horizontally from a first side of the display to a second side of the display, as is recited in claim 7. Consequently, Tognazzini does not disclose that the

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reference position, i.e. anchor position, is a vertical line at the center of the display, as is recited in claim 8.

Like Tognazzini, Lemelson presents a system for scrolling a page of information displayed by a computer, whereby the rate and direction that the information is scrolled is based on the position of the user's gaze (for example, see the abstract of Lemelson). Regarding the claimed invention, Lemelson further discloses that the information may be scrolled horizontally, from a first side of the display to a second (see column 18, line 64 – column 19, line 29).

Therefore, it would have been obvious to one of ordinary skill in the art, having the teachings of Tognazzini and Lemelson before him at the time the invention was made, to modify the system taught by Tognazzini such that it may be implemented to provide for horizontal scrolling, like taught by Lemelson. It would have been advantageous to one of ordinary skill to utilize such a combination because, as demonstrated by Lemelson, various applications or documents require horizontal scrolling. Thus with this combination of Tognazzini and Lemelson the scrolling information scrolls horizontally from a first side of a display to a second side of the display, as taught by Lemelson, and wherein the rate this information scrolls is dependent upon the deviance of the user's gaze from a reference position, as taught by Tognazzini. Tognazzini particularly teaches that when scrolling vertically, this reference position is a horizontal line across the center of the display (for example, see (see figure 3, in addition to column 5, lines 16-20). By analogy, it is therefore understood that when scrolling horizontally, this reference position, i.e. anchor position, is a vertical line at the center of the display. As further shown above in the rejection for claims 3 and 5, Tognazzini teaches that, when scrolling vertically from a first side of a display to a second, the scroll direction is reversed

if the user's gaze moves near the second side of the display. Thus by analogy, it is understood that when scrolling horizontally, the control means reverses scroll direction if the gaze position moves near the second side of the display.

Claims 9, 13, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the U.S. Patent of Tognazzini, which is described above, and also over U.S. Patent No. 5,867,158, which is attributed to Murasaki et al. (and hereafter referred to as "Murasaki"). As shown above, Tognazzini presents a system, method, and computer readable medium, like that of claims 1, 11, and 14, respectively, which are for using eye gaze to control the rate of information presented on a display. Tognazzini specifically discloses a controller for adjusting the speed that the information scrolls if the user's gaze position deviates from a reference position. Tognazzini, however, does not explicitly disclose that the controller dynamically adjusts the reference position, i.e. anchor position, to the position of gaze dwell, as is expressed in claim 9, 13, and 16.

Like Tognazzini, Murasaki presents a method for scrolling information, this method comprising: a display unit for displaying information; a means, like the eyetracker described by Murasaki, for designating a point within the display as a designate position; and a control means for scrolling the displayed information at a direction and rate dependent upon the deviation between the designate position and a reference position, i.e. anchor position (see column 5, lines 8-35; and column 7, lines 27-41). Regarding the claimed invention, Murasaki discloses that the user may dynamically adjust the reference position (for example, see column 11, lines 25-28).

Therefore, it would have been obvious to one of ordinary skill in the art, having the teachings of Tognazzini and Murasaki before him at the time the invention was made, to modify

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the system, method, and computer readable medium taught by Tognazzini such that the reference position, i.e. anchor position, may be dynamically adjusted by the user, as is done by Murasaki. It would have been advantageous to one of ordinary skill to utilize such a combination because allowing the user to select the reference position creates a scrolling means which is adapted to that particular user, as is demonstrated by Murasaki. Thus with this combination of Tognazzini and Murasaki, the reference position may be dynamically adjusted. Since the system of Tognazzini is aimed at a gaze-driven environment (see column 2, lines 15-25), and since Tognazzini teaches that a user may designate displayed screen areas with his or her gaze (for example, see column 6, lines 44-58), it is understood that the user may designate the reference position with his or her gaze. Consequently, it is understood that this combination of Tognazzini and Murasaki teaches dynamically adjusting the reference position to the position of a gaze dwell.

Conclusion

The prior art made of record on form PTO-892 and not relied upon is considered pertinent to applicant's disclosure. The applicant is required under 37 C.F.R. §1.111(C) to consider these references fully when responding to this action. The Murasaki et al. and Sciammarella et al. U.S. Patents cited therein each described methods for scrolling at a rate based on an input position and a set anchor position.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blaine Basom whose telephone number is (703) 305-7694. The examiner can normally be reached on Monday through Friday, from 8:30 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca can be reached on (703) 308-3116. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-7238.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 305-3900.

btb



RAYMOND J. BAYERL
PRIMARY EXAMINER
ART UNIT 2173